Remarks:

Claims 1 and 3 are rejected under 35 USC 103 as being directed to subject matter which is obvious over Iwashita (US 6,482,526). The Office Action acknowledges differences between applicants' claimed invention and Iwashita as follows:

> "Iwashita discloses the claimed invention except for the half-life of crystallization or the vapor transmissivity and the exact ranges of the copolyester resins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust of the half-life of crystallization or the vapor transmissivity and the ranges of the copolyester resins since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233."

The significance of the differences acknowledged in the Office Action and why it would not be obvious to modify Iwashita as suggested in the Office Action are discussed hereinafter after first placing applicants' claimed invention in the context of the art.

Applicants' claimed invention provides a product which avoids a difficulty in the prior art, namely, the deterioration of the exterior appearance (whitening) of the can end after the can has been retorted to sterilize. Applicants' claims specify a product having a specified composition comprising a polyester (I)

and a polyester (II) and specifies that the polyester (I) is 30 to 60 wt% and the polyester (II) is in amount of 40 to 70 wt%. Applicants' claimed product also specifies that the amorphous polyester layer in the polyester film has a specified thickness and a half-time of crystallization of 40 seconds or smaller at 130°C and that the polyester film has a water vapor transmissivity of 100 g/m²/24 hr or smaller. When these conditions are met, applicants' claimed can end when incorporated into a can which is retorted, avoids deterioration of the exterior appearance.

By contrast, Iwashita aims at improving the mechanical property of film, with an object of suppressing the exfoliation of film, film fracture and film cracks even when a film-coated metal sheet is used for high processed cans, and wherein, the object is not to improve the exterior appearance of the outer surface of a can after retorting as is aimed in contrast by the present application. Iwashita recites in claim 1 as a condition that the polyethylene terephthalate resin has a low temperature crystallization of 130 to 165 °C. Iwashita does not disclose a problem relating to the deterioration of the exterior appearance which is caused by change of color, i.e., whitening, of the exterior surface after the can is retorted (which occurs during commercial production of the canned product).

The statement in the Office Action that "...it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233" is based on a fact situation which is essentially different than the present fact situation. In the Aller case, applicants claimed a chemical process. The prior art disclosed the same chemical process except that applicants' claims required a different reaction temperature and a different acid concentration. The advantage of the claimed invention was allegedly higher yield. The Aller Court stated:

> "Normally, it is to be expected that a change in temperature, or in concentration, or in both, would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art." (p. 235, left column).

It is respectfully submitted that the present fact situation is patentable under the criteria stated by the Aller Court since the result is different in kind and not merely in degree from the results of the prior art. As discussed hereinbefore, applicants' claimed invention solved a problem which is not addressed in the reference. It is respectfully submitted that there are no

teachings in the reference which would direct workers who are attempting to produce a laminated can which does not have a deteriorated appearance after retorting to select the Iwashita reference from the voluminous prior art as a starting point for research and then find that a different concentration of the polymers and specified film characteristics provides a critically different result.

The differences between applicants' claimed materials in terms of polymer concentrations, crystallization temperatures and the critical half-time of crystallization at 130 °C is established in detail in the experiments reported in the attached DECLARATION UNDER 37 CFR 1.132 (5 pages) which is being transmitted herewith. As noted in said DECLARATION and also in the present specification, page 11, if the half-time of crystallization at 130 °C is 40 seconds or smaller, during subsequent processing of the cans including the retort sterilization, the formation of bubbles is effectively prevented thus suppressing the whitening of the film. Consideration of said DECLARATION is solicited.

It is respectfully submitted that applicants' claimed invention is not obvious in view of the Iwashita reference for the reasons detailed hereinbefore. Allowance of the application is solicited.

Respectfully submitted,

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Encs: PETITION FOR EXTENSION OF TIME
DECLARATION UNDER 37 CFR 1.132

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/580,122

Applicant(s): Takeshi SUZUKI et al

Filed : May 19, 2006

For : LAMINATED METAL SHEET FOR CAN END HAVING EXCELLENT APPEARANCE AFTER RETORTING

Art Unit : 1794

Examiner : Gregory D. Clark

Docket No. : 06344/HG

Customer No.: 01933

CONFIRMATION NO. : 7446

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR 1.132

S I R :

I, Takeshi Suzuki, declare as follows:

1. I am an inventor of the above-identified patent application.

2. I graduated from Waseda University in the year 1987, and I received the degree of chemical engineering.

3. I have worked for JFE Steel Corporation (and a predecessor corporation), Tokyo, Japan, since the year 1989, and I presently hold the position of Deputy General Manager of Can & Laminated Materials Research Department.

4. The following experiments were carried out under my direction.

5. A comparison was made of a film according to the Iwashita reference and also of the presently claimed invention. A sample of the film within the scope of the Iwashita reference (Comparative Example in Table 1 below) and two films within the scope of the present invention (Inventive Examples in Table 1 below) were prepared and a differential scanning calorimeter (DSC) procedure was carried out to measure the crystallization temperature and other film characteristics which are reported in the attached Figs. 1, 2 and 3. The half-time of crystallization at 130°C. was also determined. The results are shown in Table 1.

Table 1. Crystallization Temperature, Half-time of Crystallization at 130°C and DSC.

Composition		Crystallization Temperature	Half-time of Crystallization at 130°C	DSC Chart	Classification
PET	PBT	(°C)	(sec)	(2nd Run)	
70	30	121	62	Fig. 1	Comparative Example
60	40	102	30	Fig. 2	Inventive Example
40	60	70	4	Fig. 3	Inventive Example

The above data show that the Comparative Example has a half-time of crystallization at 130°C. of 62 seconds which is substantially in excess of the maximum 40 seconds permitted in the present claim 1. The two Inventive Examples showed a half-time of crystallization at 130°C. of 30 seconds and 4 seconds, respectively. As noted in the specification, page 11, lines 5-8, if the half-time of crystallization at 130° is 40 seconds or smaller, during processing of the cans in the retort sterilization, the formation of bubbles is effectively prevented, thus suppressing the whitening of the film.

The differential scanning calorimeter (DSC) chart for the Comparative Example, Fig. 1, and for the two Inventive Examples, Figs. 2 and 3, are attached hereto. The DSC charts show the substantially different physical characteristics of the Comparative Example and the examples of the present invention.

The DSC measurement conditions are set forth in the following Table.

[Measurement Condition of DSC]	
1st run	
Range of measurement	40°C to 290°C
Increase rate of temperature	10°C/min
Holding time	290°C×1min
Rapid cooling	Held at 290°C and rapid-cooled by liquid nitrogen
Atmosphere	Nitrogen atmosphere
2nd run	
Range of measurement	-50℃ to 290℃
Temperature increase rate	10℃/min
Atmosphere	Nitrogen atmosphere

The half-time of crystallization at 130° was determined by carrying out the method disclosed in the present specification, page 11, line 9 through page 12, line 24.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false

statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: May 28, 2009 Takeshi Suzuki

Takeshi SUZUKI